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## A successful combination: Launder Channel plus Wash Press SL



*HUBER Launder Channel for complex transport ways, type HLC, reliably feeding the Wash Press WAP-SL units*

### HUBER SE receives order for the largest sewage treatment plant in Northern Ireland

With its 280,000 inhabitants Belfast, the capital of Northern Ireland, is the second largest city on the island of Ireland. Situated at the mouth of the river Lagan in the Bay of Belfast the city represents one of Northern Ireland's 26 administrative districts. Three of the six million Irishmen live in the Dublin-Belfast corridor, along the motorway. In 2011, HUBER SE supplied already the complete mechanical pre-treatment equipment for Dublin, the biggest city on the island of Ireland. Now we have received the order to supply the equipment for the large sewage treatment works Belfast in two phases. The project comprises six HUBER Wash Press units of the biggest available size WAP/SL/12.

#### **Phase 1: Stormwater Tunnel**

The first phase "Stormwater Tunnel" was already completed successfully in November 2009. In order to eliminate flooding within the city, Northern Ireland Water started work on building the sewer in 2006. It involved taking the combined sewers from the whole of the city to channel this to a common facility located at and on the city's WwTW. It was a 40 m deep sewer holding 85,000 m<sup>3</sup> of waste water, 9.4 km long with 19 access shafts located about the city. At the end of this tunnel the terminal pumping station in a large 40 m deep chamber complete with pumps to take excess flow back into the inlet works. Flows in excess of this however were to be screened using 2 off new 12 m diameter 6 mm drum screens screening 12,000 l/sec each.

In this first stage of completion, two Wash Press WAP® SL 12 units with a throughput capacity of 15 m<sup>3</sup>/h raw screenings each (redundant design) were installed successfully. The Wash Press units are fed via a launder channel system. The great advantage of this system is that complex transportation ways can be designed very easily and with a high operating reliability. The flushing water is also



*2 off HUBER Wash Press WAP-SL units designed for 15 m<sup>3</sup>/h raw screenings, via launder channel*



4 off WAP-SL-12 units with a throughput capacity of 15 m<sup>3</sup>/h raw screenings each for highest dewatering efficiency, with a quality factor for screenings < 20 mg BOD<sub>5</sub>/g DR

used as wash water for the Wash Press. The HUBER Launder Channel for complex transportation ways, type HLC, ensures reliable feeding of the WAP® SL wash presses. The very high screenings treatment standards are fully met with 35% DS content being achieved with < 20 mg BOD / g DS.

## Phase 2: Main Inlet Works

After the successful completion of the stormwater tunnel project the client's next task was to look at upgrading the main inlet works at this site. Based on the outstanding success of the HUBER WAP® SL units installed, the end-client was happy to work with HUBER to engineer a solution to meet both a high flow requirement as well meet very tight and difficult hydraulic constraints on site.

Managing the large elevated structure, as well as meeting the requirement to phase the installation, was of paramount importance to the client. If this was not undertaken correctly then severe overtopping and pollution issues could arise. Different design options were presented to the client, and after numerous site visits and design review meetings a solution was eventually agreed. This comprised of the supply of 6 off RakeMax® screens, 2,152 mm wide, 50 mm bar spacing coarse screens, followed by 6 off EscaMax® 2,252 mm wide, 6 mm perforated plate fine screens with each bank of screens having dedicated duty / standby WAP® SL size 12 screenings handling units installed (4 off in total) each unit, uprated to give a maximum of 15 m<sup>3</sup>/hr raw screenings. Like in first project phase, a launder channel system is again used to remove the screenings into the Wash Press units.

The phased installation and commissioning of the units is well underway and is due to be complete very soon. The work so far has gone to plan and the feedback from the first phase of the installation shows the project is a great success.

